

## A new species of *Litophasia* Girschner from South Africa (Diptera: Tachinidae)

by

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### SYNOPSIS

A review of the genus *Litophasia* is presented, with a brief summary of its systematic position, and a new species *L. sulcifacies* is described from South Africa. The characteristics of this little known genus are enumerated, together with the differences observed between the new species and the European type-species, *L. hyalipennis* (Fallén).

### INTRODUCTION

The main purpose of this paper is to describe a second species of the remarkable tachinid genus *Litophasia*, which has previously been known from a single Palearctic species. The new species is from South Africa and was discovered in unidentified rhinophorid and tachinid material by Dr R. W. Crosskey when preparing his recent paper of Afrotropical Rhinophoridae (Crosskey, 1977).

### Genus *Litophasia* Girschner

*Litophasia* Girschner, 1887: 380. Type-species: *Thereva hyalipennis* Fallén, 1815, by designation of Townsend (1935: 251).

*Lithophasia*. authors, incorrect subsequent spelling.

**Discussion:** *Litophasia* possesses many characteristics of the Rhinophoridae and may at first glance be placed in that family, even by experienced calyptate workers. Professor B. Herting (in litt. to Dr Crosskey) considers that this genus belongs to the Tachinidae and should be placed in the tribe Catharosiini. I agree with and follow this view in the present paper but the placing is not easily justified using adult morphology and without host data. However, a study of the female ovipositor gives a clue to the correct family placing of this genus and justifies its inclusion in the Tachinidae. It is an ovipositor typical of Catharosiini and some Phasiini, in the form of a large, curved, sclerotised spine. The fifth sternite is also typical of these tribes, being covered in short, dense spines. Although Rhinophoridae are parasites of invertebrates (Isopoda), none of them possesses specialised ovipositors as the eggs are laid freely, away from the host, and it is the larvae that are specially adapted for searching out the woodlice. It is therefore very improbable that *Litophasia* is a rhinophorid as the adaptation of a piercing ovipositor would be an unlikely evolutionary development in this family. To place a male specimen of *Litophasia* in the Tachinidae is much more difficult, but using the characters listed below and a general 'feeling' it cannot be mistaken for a rhinophorid.

**Diagnosis:** *Litophasia* can be distinguished from the known Tachinidae by the

undeveloped post-scutellum, strap-like lower squama, cell *R5* with a long petiole, an open anterior spiracle and a posterior spiracle with fringes and not occluded (see Crosskey 1977, Figs 41–46).

*Litophasia* can be distinguished from the known Rhinophoridae by the totally black body colour lacking dusting, bare node at the base of *R4+5*, modified ovipositor, very exposed and rounded sixth tergite and horizontal grooves and striations on the parafrontals and parafacials. In the Rhinophoridae, *Phyto stuckenbergi* Crosskey has a bare node at the base of *R4+5* but cell *R5* is not petiolate and the head shape is unmistakable with a very produced epistome and profrons (see Crosskey 1977, Fig. 11). Some Oriental *Morinia* species have grooves on the parafacials but in these the arista has long hairs and the cell *R5* is open.

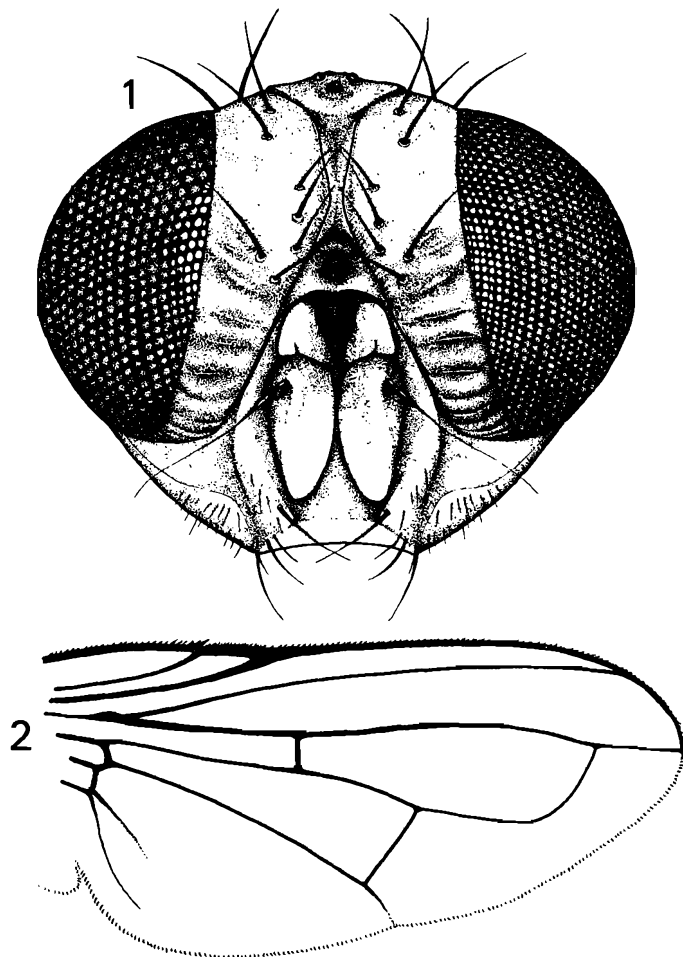
In the key to genera given by Crosskey (1977: 18) in his review of the Rhinophoridae, *Litophasia* would run out to *Melanophora* from which it can easily be distinguished. *Melanophora* has a distinctive head profile (Crosskey 1977, Fig. 17), marginal setulae on all tergites, a haired arista and a third antennal segment that is shorter than the second. Herting (1961: 5) gives a note to distinguish *Litophasia* from his rhinophorid genera.

#### Key to the species of *Litophasia* Girschner

1. Parafacialia silvery pollinose. Anterior part of jowls silvery-grey dusted. Ocellar setulae strong. Epistome equal to twice width of third antennal segment. Anterior thoracic spiracle open and ovate. Pre-alar seta present. Male frons at narrowest point equal to width of anterior ocellus and with distinct thoracic setulae. [Palearctic species] ..... **hyalipennis** Fallén
- Parafacialia shiny black. Jowls totally shiny. Ocellar setulae weak. Epistome equal to one and a half times width of third antennal segment. Anterior thoracic spiracle open and triangular. Pre-alar seta absent. Male frons at narrowest point equal to one and a half times width of anterior ocellus and with indistinct thoracic setulae. [South African species] ..... **sulcifacies** sp. n.

#### *Litophasia sulcifacies* sp. n.

**Head:** Ground-colour dark brown to black, with shiny reflections. Male frons 1,5 times the width of anterior ocellus, female 1,3 times eye width. Eyes bare. Parafrontalia with few fine setulae besides the *ori* and with numerous striations and grooves (Fig. 1). Parafacialia bare, shiny with deep grooves, especially in female (Fig. 1). Male with slight indentation centrally on eye margin. Jowls with finely rugose surface making it less shiny and with numerous short setulae. Interfacial membrane bare and orangy-brown. Back of head slightly convex, matt black and with fine black setulae. Occipital row not distinct laterally in male but with long setulae above. Post orbit shiny. Male with ten *ori*, female with six, some weak, three reclinate, outcurving *ors*, a pair of *vti* and *vte*. Ocellar setulae very weak. Lunule shiny with a central indentation. Vibrissae moderately strong and crossed, facial ridge with few short setulae; oral margin with some stronger setulae. Antennal segments brown, third markedly triangular in cross-section.



Figs 1–2. *Litophasia sulcifacies* sp. n. 1. female paratype, head. 2. male holotype, right wing.

Arista long, second segment short, third segment swollen on basal fifth. Palpi vestigial, mentum long, shiny brown.

*Thorax*: Ground-colour black, pleurae more brownish. Mesonotum and upper pleurae micro-rugose, giving a matt but still reflective surface. General setulosity in male obscuring rows of setulae except for two notopleurals, *1sa* and *2pa*. Female with *Ac* 0+0, *dc* 2+1, *2h*, *1ph*, a presutural, *pra* absent, *1sa*, *2pa*. Prosternum bare, propleuron bare, propleural and prostigmatal seta present. Anterior spiracle open with very short fringe and shaped as an elongate triangle. Mesopleuron covered with fine black setulae, a stronger row on posterior margin, these are weaker in the female. Sternopleuron with long hairs in male and short in female, *stpl* 0+1. Pteropleural seta present but weak. Barette bare. Pleurotergite pilose. Scutellum with one basal and one subapical pair of setulae and some stronger discals amongst the hairing.

*Legs:* Dark brown and shiny. Fore femur with long hairs on whole of posterior surface and with distinct *pd* and *pv* rows of setulae, general hairing shorter in female. Fore tibia with 1*pv* seta. Mid femur with basal *av* and *pv* row of setulae. Mid tibia with 1*ad*, 1*v*, 2*p* and some strong apical ventral setae in male. Hind femur swollen with weak basal *pv* row, weak apical *ad* and *av* rows of setulae. Hind tibia slightly arcuated with 5*ad*, 4*pd* and 2*av* setulae.

*Wing* (Fig. 2): Hyaline, veins pale brown. All veins bare. Cell *R5* petiolate. Epauklet black, basicosta reduced and shiny brown. Lower squama infuscated, strap-like. Upper lobe pale. Halteres brown with knob darker.

*Abdomen:* Ground-colour dark brown. *T1+2* to 5 with brownish-grey dusting when viewed at an angle from behind. *T6* shiny, exposed in both sexes. *T1+2-5* with single lateral marginal setula. Male with some longer lateral discal setulae on *T4* and 5 and with longer setulosity generally. *T6* with discal setulae. Sternites dark brown with short setulae. Fifth sternite of female with dense triangular group of short robust spines.

*Genitalia:* Male not examined. Ovipositor of female as a large sclerotised, curving spine.

*Measurements:* Male, body—3,5 mm, wing—3,0 mm. Female, body—3,5 mm, wing—2,5 mm.

*Material examined:* SOUTH AFRICA: *Cape Province:* Holotype ♂, Port Elizabeth, x.1931, Mrs L. Ogilvie, in the British Museum (Natural History), London. Paratypes 1 ♂ 1 ♀, S.W. Cape, Calvinia District, Brandkop Area, 14.x.1964, B. & P. Stuckenberg, in the Natal Museum (NM 2303), Pietermaritzburg.

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